

Claims

1. Coolable housing jacket (1) for an electric motor, which is manufactured as a cast moulded part, is formed for receiving a concentric internal rotor/stator arrangement (23) together with windings and winding overhang (24) with a through-passage (3) that is symmetrical, concentric and/or coaxial with respect to a hypothetical motor axis of rotation, and which is penetrated by one or more cooling channels (2, 2a-h) to form a coolant circuit, characterised by a coating of the jacket inner faces including the channel internal walls via a cathodic dip-varnishing process or other dipping process.
2. Housing jacket according to claim 1, characterised in that the coating thickness is between 10 μm and 50 μm .
3. Housing jacket according to claim 1 or 2, characterised by the use of a dipping varnish with a basis of epoxyaminourethane, preferably deposited by a cathophoretic process.
4. Housing jacket according to one of the preceding claims, characterised by the manufacture of the jacket body from aluminium.
5. Housing jacket according to one of the preceding claims, characterised in that the cooling channels (2) end with apertures freely accessible on the outside opening on to at least a first (5a) of plural housing jacket faces (5a, 5b).
6. Housing jacket according to claim 5, characterised in that in a second of the housing jacket faces (5a, 5b) the cooling channels (2) end at a housing wall formed by casting and are thus closed in a sealing-tight manner with respect to the outside.
7. Housing jacket according to one of claims 5 or 6, characterised in that the housing jacket faces (5a, 5b) comprise two end faces which are remote from

one another and/or parallel to one another, the cooling channels (2) in the first (5a) of which end freely accessibly on the exterior, and the cooling channels (2) in the second (5b) of which end at a housing end wall (6) formed by casting and are thus closed in a sealing-tight manner to the exterior.

8. Housing jacket according to claim 6 or 7, characterised in that the second (5b) housing jacket face (6) or end wall formed by casting abuts the remaining housing jacket body in an integral manner.

9. Housing jacket according to claim 7 or 8, characterised in that the second (5b) housing end wall (6) formed by casting is provided inside with cavities such that they form deflection chambers and/or transverse ducts (14), which communicate with the cooling channels (2), extend transverse to a hypothetical motor axis of rotation, and join together the channel ends and/or the deflection chambers.

10. Housing jacket according to one of the preceding claims, but at least claim 6, characterised in that the housing jacket face (6) formed by casting and sealing the cooling channels (2) has in its cast wall one or more bores (15) or other perforations.

11. Housing jacket according to claim 10, characterised in that the bores or perforations have a female thread for the fixing of casting core holding elements and/or for receiving screw-type seals (16).

12. Housing jacket according to claim 11, characterised in that the screw-type seals (16) are provided with sealing rings.

13. Housing jacket according to claim 10, 11 or 12, characterised in that the bores (15) or perforations are formed as inlets or outlets (7, 11) for coolant and communicate with the cooling channels, optionally via a deflection chamber and/or transverse duct (14).

14. Housing jacket according to one of the preceding claims, characterised in that at least on a first housing jacket face (5a) fixing elements (18), e.g. female-threaded bores, are provided in order to mount a cover, e.g. an end shield or pressure ring (17).